

NOTES ON SOME LIZARDS, FROGS AND HUMAN BEINGS IN THE
NILGIRI HILLS.

BY

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LACERTILIA.

Chamæleo calcaratus.—The Indian Chameleon.

I saw several specimens of this lizard, chiefly at low elevations (below 3,000 feet). It ascends to the height of Coonoor (6,200 feet) and possibly above this. When molested it hisses loudly and bites a stick or other object with great malice. A lady brought me one that she encountered on the road to Lamb's Rock. It made so much noise and was so menacing that her rickshaw cooly was scared and refused to go further. Not knowing in the least what she was dealing with, she endeavoured, in spite of her alarm, to catch it, and finally succeeded single-handed in getting it into her semi-closed umbrella. Here it swore audibly all the way back and although the cooly had strenuously opposed rendering any assistance in the capture he demanded extra "bakshish" for his courage (?) in conveying this additional and unexpected passenger home. I liberated it, and watched its slow and measured ascent into the branches of a nearly leafless tree. Here it remained all day, an object of interest to every one in the Hotel. It had disappeared next morning. The male claspers of one I killed were cylindrical and not bifurcated.

Draco dussumieri.—Dussumier's Flying Lizard.

I only saw one of these interesting creatures actually in flight. This was at about 3,000 feet elevation. After a volplane, the commencement of which I did not witness, it alighted audibly on the trunk of a tree about ten feet from the ground. I had a side view of the flight, and noticed that there was no *actual* ascent at its termination, but a slight *apparent* ascent owing to the lizard converting a horizontal posture into a vertical one, as it came to rest.

Charasia dorsalis.

This lizard is extremely common all over and above Coonoor. It is dark brown dorsally, and harmonises with the rocks which form its home. It is very active and wary and disappears into any convenient cranny when approached. The body is remarkably depressed and this enables it to secrete itself in extremely narrow fissures. The male when excited assumes a black hue, and exhibits a bright pink moustache stripe, which makes it a very striking object. It is very difficult to capture. One that I shot lost its beautiful colouration as if by magic, and I could hardly believe it to be the same creature whose beauty had arrested my attention a few seconds before.

The brilliancy of colour appears to be a demonstration of excitement, and, as in many other lizards, is only exhibited by the male. Some naturalists would have us believe that, as in the case of brilliant plumage in birds, it has been evolved by natural selection, the female selecting the male as her mate who has the most brilliant display at his command. This beautiful theory is on a par with a great many other theories elaborated with great ingenuity by modern naturalists. It is pure nonsense in the case of lizards, and if so in lizards, why not in birds? The fact is that with lizards the females make no choice. I have witnessed on many occasions the act of mating among many lizards especially those of the genus *Calotes*, many of which display very brilliant colours. The male with flaming head (in the case of *C. versicolor*) on sighting a female rushes upon her. She scuttles away as fast as she knows how, but is overtaken, overpowered and ravished in the most flagrantly brutal fashion. In such circumstances how

can the flaming head be claimed as a lure or charm? On the contrary past experience must make this a warning colour to the female, and obviously does, because she flees precipitately before it. The modern naturalist of the "warning colour school" having read this will assuredly sit at home, and concoct a wonderful story as another proof of his pet theory.

Many modern naturalists—Cabinet naturalists chiefly—remind me of the Greek philosophers who were regarded as omniscient. One of these—Socrates I think it was—explained honey dew as "the sweat of the heavens, the saliva of the stars, or a liquid formed by the purgation of the air."! It is difficult to imagine that the credulity of the people contemporary with him was such that it could be imposed upon by such an oration. One would suppose that even a person of dull perceptions would ask why the heavens only sweated beneath trees, or why the stars salivated so copiously in the day time or again what agent caused the purgation of the air. Any moderately endowed observer of the times would, if he had examined the trees, have discovered the real cause—the aphid. It does not need a microscope to reveal its presence, but is easily seen by the naked eye. The philosopher you will notice was wily enough to add two alternatives, in case the first did not carry conviction. It appears to me many modern naturalists are as ingenious and cryptic as the said Socrates, and they are contemporaneous with a public just as gullible and capable of swallowing a camel as a gnat, as the public of his day.

Salea horsfieldi.—Horsfield's Lizard.

This is a very common species below the altitude of Coonoor. Under excitement the male is an extremely beautiful object, being of an intensely brilliant verdant green dorsally, merging to yellow on the head. The gular pouch is a brilliant yellow, and the belly pearly-white.

Gonatodes jerdoni.—Jerdon's Gecko.

This dusky little gecko may be more abundant than it appears. I only saw three, and all in the same spot. I noticed one day a movement on a mossy wall behind the notice board opposite the Post Office at Coonoor. A cautious approach and careful inspection revealed a gecko quite new to me. A smart stroke and "father" was beneath my hand. A further scrutiny and I noticed another. "Father" having been transferred to my left, I made another quick stroke with my right hand and "mummy" was struggling beneath. Further search disclosed the pride of the parents. "Mummy" joined "father" in my left, another stroke and I had the whole family.

At this juncture I found myself the centre of a gaping crowd, numbering two policemen—evidently thinking I had evil designs on the notice board—half a dozen rickshaw coolies, as well as ayahs and babies, and, as luck would have it, a lady acquaintance passing by extended her hand which I was unable to grasp, having none to offer, both being engaged by my struggling captives. These are very trying moments in a naturalist's life!

BATRACHIA.

Genus IXALUS.

Ixalus variabilis.—The Common Castanet Frog.

Even the most uninterested and unobservant visitor to the Nilgiri Hills cannot fail to notice and remark upon the multitudes of clap-like sounds that emanate from every bush during the rains. Most visitors no doubt not only remark upon them but wonder what sort of creature produces them.

Having some knowledge of Batrachians I expected to find they were produced by frogs, and I set to work to discover the species concerned. I found this by no means the easy task I had expected, although the sounds reached me from far and near on every side. As soon as I directed my attention to one individual

spot, and cautiously approached it, the sound so often repeated suddenly ceased. At this stage the frog forgets all about his lady love to whom his song is addressed and like "brer rabbit lies low and says nuffin." A contest of patience would then ensue between us, the frog remaining silent and I immobile, he waiting for me to go, and I pretending I wasn't there. The frog won every time. My patience exhausted, I listened attentively to another vocalist and tried to track him down. At close quarters I would scan the ground and the foliage for a moment for a glimpse of him, but unsuccessfully. This went on for some days. At intervals I would stand out in the rain, in view of other visitors in the hotel, peering into a hedge apparently at nothing. This behaviour aroused suspicion among certain visitors who did not know me and my ways, and my sanity was questioned. At last after repeated failures I offered a reward of four annas to any one who could find the mysterious ventriloquist, and in a few minutes all the idle rickshaw coolies in the hotel were on the warpath after the elusive little creature. After the lapse of a considerable interval one man brought me a tiny little frog about an inch long which was obviously a tree frog from its dilated toes. Later another of the same kind was brought and then as if by magic every cooly had a dozen or so to offer me. Then I sallied forth to learn the secret of their discovery. At the back of the hotel was a narrow little water channel that flowed into a masonry catchpit for the use of the malis when watering the garden. At the edge of this little channel were many arum lilies, and if one searched these plants systematically a frog was sure to be disclosed in one of the hollow stems just above where it clasps the root. I also found it in other similar plants such as wild ginger, and caladiums. Having collected several specimens in various jars, and given them foliage and water, my next concern was to hear what sounds would emanate therefrom, but they remained strangely silent all day. Prison quarters were evidently not conducive to love making. At night I placed the jars close to my bed and when the light was out, first one and then another piped up and to my delight the author of the clapping notes had been unmasked.

The next morning I identified the species as *Ixalus variabilis*. It is a pretty little brown creature, one inch or slightly longer, with a shapely body, large lustrous eye and very short, rather pointed snout.

The note in this particular species is a monosyllabic short, sharp clap, reminding one of the noise made by a clapper to scare birds, or that made by castanets, and is remarkably loud considering the diminutive creature that produces it. It is certainly audible 30 or 40 yards away, and is produced by the male, who blows out his vocal sac, so that his throat swells to the size of a small marble. The sound is emitted when the sac is at its extreme limit of distension, and the sac then collapses like a burst bubble. In a few moments the vocalist again inflates his sac and emits another loud clap.

During fine weather these sounds are not so much in evidence, but as soon as it rains the comparative silence of the welkin is replaced by a clamorous outburst from every castanet frog, who endeavours to outrival his neighbours in announcing his whereabouts to his lady love. At night a few desultory claps are to be heard when fine, which swell to a tumultuous chorus with the advent of a shower.

This little frog is so plentiful and so small that it forms the staple food of most of the frog-loving snakes. It is a convenient size for small snakes to eat, and many are not content with one for a meal, but swallow two or three at a time.

The stomachs of those I opened were plentifully stocked. A caterpillar that feeds on the arum is frequently taken. I found crowds of small spiders and many dipterous insects, one in particular being a peculiarly bright iridescent green species.

As regards matrimonial affairs I failed to elicit any thing. I never saw the

frog in water, but many females were heavily egg-bound in July and one is left wondering whether fertilisation is effected in that element or not.

Ixalus signatus.—The X Castanet Frog.

This attractive little species resembles the last very closely. It is quite as diminutive, brownish in colour, and is easily recognised by the large deep brown X on its back. Like the last I found it difficult to locate. In fact I failed to identify it from its note on my first visit to Coonor. A second period of leave in mid-September 1920 gave me another opportunity, and my efforts were rewarded.

Though not nearly so numerous as *Ixalus variabilis* its voice could be heard on all sides, and especially in gloomy dells, where tree ferns flourished. I found as soon as I approached one too closely he became tongue-tied—something akin to stage fright I suppose—and then the same contest of patience arose between us, at which I had been so badly defeated by the last species, *signatus* proved himself as victorious an opponent as *variabilis*, and I wasted several days in wet surroundings, and was bitten to pieces by mosquitoes, before success crowned my efforts. Then I adopted new tactics. My next manœuvre was to try and locate the little beggar as near as possible, and then go in and boldly shake the foliage, but there is something uncanny about the sound which makes one think at one moment it is at ground level, at another in low foliage, and after again twisting one's head, somewhere at about the level of one's face. My first success was due to sheer luck. I was trying the patience "stunt" with one that I had located in a flower bed but could not see. As I imagined it must be my visible presence that scared the frog, I secreted myself behind the trunk of a convenient tree within six feet from where I judged the sound to have emanated. After a long spell just when I was beginning to think froggie had done me down again, I was startled to hear a call close to my head. I scanned that branch with every care, but failed to see this little wizard of the bush. I then gave the branch a brisk shake and something dropped on to the grass beneath. Was it a dead leaf? No, it moved. Thank Heaven, it jumped! Being in the open I had the advantage, and a pretty little brown tree-frog was soon quartered in my match box. With great satisfaction I returned to my dumb-struck friend in the flower bed and started a systematic shaking of every plant, with the result that something jumped out of a *Chrysanthemum halleri*. In half a second I was in the middle of the bed. One second more and I had him. My match box was cautiously opened, and number two with a good deal of persuasion "a posteriori" owing to the limited accommodation within, was securely imprisoned.

So much for the sport, but what of the "kill sports"? This scene was enacted in Sim's Park, the daily "rendezvous" of multitudes of nursemaids with their charges (every colour variety of both known to India). As soon as I took up my quarters behind the tree I was evidently spotted by one of the lynx-eyed children who communicated the intelligence to others. The result was they jumped to the conclusion that I was playing a game of hide and seek, and they waited at first to ascertain who the children could be who would do the searching part of the business. No seekers aniving, curiosity impelled them to troop in twos and threes past me, not once but many times. Then one of the nursemaids, who had been for many minutes encircled by the stout arm of a "Tommy" in a summer house, was told, and there was a sudden "break away", and both got up and walked backwards and forwards in front of my tree, the Tommy trying to reassure himself that I was not one of his officers doing a spy on him. Then the policeman—usually a fixture at the gate—forsook his post, and peered at me, and appeared very suspicious and haunted my near vicinity. Later on a mali joined the policeman and there was much subdued conversation between them. When, therefore, at the climax I had leapt into the flower bed, and had captured my specimen, I found myself surrounded by all the "kill sports", and was in too

small a minority to attempt to repudiate being the cause of the damage done to certain plants that was pointed out by the incensed mali to the policeman. Moments like this cause me much distress!

Of course the malis in Sim's Park are quite accustomed to small boys and girls jumping into the flower beds, and a very rich torrent of vernacular abuse they have at their command whenever they catch any of these little folk doing it, but when one of the same malis finds a grizzle-headed, apparently sober, quinquegenarian indulging in the same juvenile frolics, his indignation is such that his jaws lock and his lips refuse to function. My hostile environment left me no choice but to withdraw with as much nonchalance as I could assume. But I am not good at this sort of thing, and find I cannot retire with any dignity on such occasions. I never had any training for the stage. It is one thing to search for a frog, but to find oneself—the pursuer—also being pursued and tracked down by an uncouth specimen of *Homo pithecopus* variety *nigiriensis*—in other words a hill cooly—is most humiliating. On my way home in my rickshaw I decided there was nothing for it but to place Sim's Park out of bounds for myself. I was decidedly unpopular among the officials there. People who read Natural History books have no idea at what cost the knowledge they contain has been acquired. Somebody has got to act as I do, or no Natural History books would be written.

On my return to the Hotel my captives were placed in a salt jar and provided with foliage and water and I awaited developments. Each frog took up his seat in the middle of a leaf, and indulged in those silent gargling efforts peculiar to batrachians in general. At dusk suddenly one tuned up, I heard his tinkling cadence, and saw his vocal sac expanded to the full, and it was no small satisfaction to realise that I had solved the authorship of the notes that were so familiar to me.

The call of this species is polysyllabic, and repeated from five to ten times at the rate of about twice a second. The notes are "staccato" and uttered with a slight tendency to "crescendo". In quality they remind one of the sound produced by castanets and there is a slight musical ring not heard in the note of *variabilis*. The notes commence when the vocal sac is almost at its maximum distension.

Ixalus glandulosus.

I obtained one specimen of this species which I dislodged from beneath a log at dusk on Adderley estate at about 4,500 feet elevation.

There is another polysyllabic note one can distinguish among the babel of batrachian voices which probably emanates from another *Ixalus*, perhaps this one but which I failed to trace to its origin. It is not so frequently heard as the call of *signatus*. The notes are numerous and more rapidly uttered than those emitted by *signatus*, and I hope to make the acquaintance of my unknown friend on my next visit to Coonoor.

Micrixalus opisthorhodus.—The Pink-legged Frog.

A very pretty little batrachian is this species which is even more diminutive than *Ixalus variabilis*. Its most striking feature is the rosy colouration of the backs of the thighs and the abdomen. It is fairly abundant at about 6,000 feet, but not nearly so common as the *Ixalus* just referred to. I found one hopping about in the leaves in a dense jungle beyond Lamb's Rock. I failed to hear its vocal effort, and the elucidation of this must be left till another visit.

Genus RANA.

Rana limnocharis.—The Yellow-legged Frog.

This species common enough in the plains is also quite common at the altitude of Coonoor, and is the prevailing species found in the ornamental piece of water in Sim's Park. In June it was very clamorous and evidently taking

matrimonial matters very seriously. The back of the belly and thighs are suffused with yellow. It is very frequently victimised by the snake *Nerodia piscator*, less frequently by *Amphiesma beddomei* and *A. monticola*.

Rana temporalis.

An elegant frog that few people ever see owing to its shy and solitary nature is *Rana temporalis*, a species that grows to about three inches in length. It is not uncommon at about 6,000 feet. It is a beautiful uniform rich brown dorsally, and the delicate smoothness of its skin rivals that of the most beautiful calf bound volume the trade can produce. There is a dark band before and behind the eye, and dark bands on the limbs. The belly is white with some speckling of brown on the throat and breast.

Those I have tracked into their lairs were solitary, and had established themselves in some dark recess beside a mountain stream or trickle in some quiet glen, the favoured haunt of the mosquito, and the tree fern. Nobody would suspect its presence there if it remained silent. However in the rains, like other batrachians its thoughts tend towards the subtlest of passions. Stirred by unusual emotions its feelings give vent to a vocal effort intended for his lady love, but which also proclaims the presence of the frog to the attentive ear of the naturalist. I heard its unmusical note many times before I discovered the species responsible for it. As with other batrachians I found I could approach to perhaps three yards of it by an extremely cautious advance, and then it suddenly became as speechless as a Scotch Planter after a Masonic dinner. I had many trials of patience with the unknown, but failed miserably in these contests. The fact is on these occasions all is in favour of the quarry. He sits in the water or beside the water in some dark recess, and croaks words of love to his prospective bride. A huge beast in human form hears a mysterious batrachian sound and seeks to learn the author. Moving at a snail's pace the human beast—on this occasion me—gradually arrives at a certain proximity from whence the frog has him in full view. At this point the frog decides to make no further remarks to his lady love. Then follows that trial of patience which the frog invariably wins. Human nature being what it is in the presence of mosquitoes the time comes when immobility is no longer possible. The human beast at last finches or brushes aside the mosquitoes on his hands or face, and all the previous period of statue-like patience is wasted, and the struggle commences afresh. After many days of fruitless endeavour the human beast resolved to try bold tactics such as are so successful in the capture of the feminine heart. Thus determined I went off one day to Sim's Park, the scene of so many previous frog adventures. This was before I had placed it out of bounds for myself. It is a beauty spot in the middle of the most beautiful of all Hill Stations. Here one finds all the trees and plants named, and can improve one's knowledge of botany. There are garden seats too where one can sit in comfort after one's latest defeat at the hands of a frog, smoke a cigarette and think matters out. My steps were directed to that same little glen below the miniature lake, where the light is dim and water tinkles melodiously, and tree ferns wave, where glade-loving butterflies such as *Ypthimas* and *Lethes* rise under one's feet, and flit jauntily away into still deeper gloom, and where I knew one of my unknown frogs lived. He had defeated me so often that I had an intense desire to get level with him. I listened. Yes: he was there in the usual place. Without further delay I rushed into his lair—splash, splash, clatter, clatter in the bed of the trickle, actively probing with my stick into one dark recess after another. Out came the skulker thoroughly alarmed, with one jump, and then another, I literally fell upon him, and the intelligence that he had not escaped was communicated to me through the cutaneous nerves beneath my waistcoat. He was butting into me, as a hungry kid butts into the udder of its mother. Still lying prone upon my face I passed my hand beneath me, sought for, found, and closed it upon the struggling prisoner. Froggie had played his last trick and lost. Brother naturalist! If this manœuvre is done

circumspectly, and you have your heart in the job, and your eyes are sharp, and your feet are nimble, and you do not mind getting wet, and there are not too many thorns to hold you back, and there is not a pool handy into which froggie can dive, and a few other "ifs" the batrachian ought to be yours. I have repeated the performance and know. Of course I got a bit wet and muddy during this adventure and its extraordinary when one comes home like that how every lady in the Hotel is sure to be sitting outside, and girls do ask such silly questions. I find it difficult to know how to clothe on these excursions. If one goes out dressed for the sport, the shabbiness and dirtiness of one's attire excites attention on the outward journey. On the other hand if decently attired after an affair such as that just narrated, the condition of one's clothes provokes attention on the homeward journey.

There was a peculiar satisfaction in getting this frog, because he had defeated me so many times previously, and he had contributed in no small measure to my unpopularity among the officials in Sim's Park.

Fortunately the sport of hunting frogs is not like international yachting or polo. No matter what has happened in previous contests, the last is the one and only one that really matters. The winner of this wins the rubber outright.

The voice of this frog is a subdued, harsh, monosyllabic croak, and having heard it one cannot help feeling that Mrs. *Rana temporalis* must be a very dull person to be charmed by any thing so uninteresting. The best feature of the declaration of love is its brevity.

Genus BUFO.

Bufo melanostictus.—The Common Indian Toad.

This species is as common in the Nilgiris Hills at the altitude of Coonoor as it is in the plains, and occurs abundantly even up to the level of Ootacamund. I found it breeding in the ornamental water in the Botanical Gardens at that station. The young were hopping about all over the gardens in July I think, though I have omitted to note the exact date. It makes a short, monosyllabic hiss when provoked.

This forms the staple food of the snake, *Macropisthodon plum'icolor*, a species that is abundant up to the altitude of Ootacamund.

Bufo beddomei.—Beddome's Toad.

A toad identified with some doubt as this species was captured by me on Adderley Estate at about 4,500 feet. This specimen was adorned with carmine spots and blotches on the sides of the body, and on the front of the forelimbs, as are some specimens of the last toad.

When the "Fauna Reptilia and Batrachia" appeared in 1890. it had only been recorded from the Travancore Hills, and this fact alone makes me query the correctness of my identification.

Ichthyophis glutinosus.

This caecilian is fairly common in the Wynad. It appears to subsist entirely on earthworms. I removed one from the stomach of one specimen, and found the intestine of others loaded with semiliquid mud evidently derived from this form of diet.